GLOBAL IP SOLUTIONS

The world's most widely deployed technology
for processing real-time voice and video over IP

Here's why …

GLOBAL IP SOLUTIONS

See the Difference. Hear the Difference.

How you process real-time voice and video over IP makes all the difference

- You want the best user experience possible

- You want technology that's validated by proven industry leaders with requirements similar to your own

- You want the flexibility of quality-enhancing components you can plug and play

- You want the power of off-the-shelf feature sets — fully populated and platform-specific— plus powerful SDKs with which to rapidly deploy them

- You want to maintain focus on your core competency — not on processing sound, speech or video

- You want products that comply with industry standards for widest adoption, fastest time to market, and lowest cost of customer ownership

- You want access to the most successful voice and video processing innovators as demonstrated by patents and recognition from standards groups

- You want the same performance and APIs regardless of platform

Your best choice: go global

GIPS is global by any measure — by deployments —by platform — and by network impairments solved.

Global means world class. It means right-sized function sets delivered at the right level of integration with the right interfaces. It means standards-based performance, deployed millions of times by proven industry leaders. It means more highly differentiated products brought to market faster at reduced cost with the right functionality. It means higher returns on investment, faster product innovation, lower customer churn, and sustained competitive advantage.

Only GIPS gives you this global advantage. GIPS media engines have been downloaded over 800 million times. GIPS technology resolves the full range of network impairments — like packet delay, jitter, packet loss, acoustic and network echo. That's why — globally — so many commercial packet-based real-time network communications devices, software applications, and services, leverage GIPS.

> "GIPS is a crucial pillar of VoIP. GIPS MediaEngines demonstrate real-time technology leadership in the industry"
> — Lynda Starr, Senior IP Communications Analyst, Frost & Sullivan

For example, the low-bit rate, narrowband codec that GIPS invented — iLBC —is an IETF standard (RFC 3951). It's a component of all voice-over-cable telephony systems as designated by CableLabs.

That's GIPS. The world's most widely deployed technology for processing real-time voice and video over IP.

From components and engines to SDKs, only GIPS offers the critical mass that today's unified communications require.

What unified communications require

No other company delivers the critical mass of media processing that today's unified communications require. With over 15 patents either awarded or pending, GIPS invented or pioneered the application of innovations like:

- No inter-packet dependency

- Multi-descriptive coding

- Variable rate coding

- One-sided enhancements

- Advanced jitter buffer

- Packet loss concealment

- PC clock drift mitigation

All of which help achieve extreme performance. GIPS' advanced jitter buffer, for example, reduces jitter delay 30-80 ms compared to the best alternative solutions. One-sided solutions enable high quality voice over networks with poor infrastructure — yet only need to be deployed at the receiving end (e.g., an IP phone or media gateway).

Innovations like these are why several GIPS components — like NetEQ and iSAC — have become de facto standards in their own right. They adjust transmission rate automatically to deliver highest possible quality. They enable the lowest packet delay. And their packet-loss robustness leads the industry.

More choices = faster deployments

GIPS' solution architecture is multi-tiered — so you get to market faster with the right combination of features and performance. Tier-1 consists of quality-enhancing components (e.g., NetEQ) designed to mitigate a range of network impairments. Tier-2 consists of codecs to support various network environments and performance criteria. Tier-3 consists of MediaEngines — each designed to power a voice or video communications platform while leveraging GIPS' quality-enhancing components for unrivaled performance.

MediaEngines for every platform

VoiceEngine PC is a full-featured software framework tuned for the PC environment. It's designed to handle all voice-related tasks in real-time for VoIP while incorporating quality enhancement components, including codecs, NetEQ and VQE to control delay, jitter, packet loss and echo. And it runs efficiently on operating systems not designed for real-time communications.

VideoEngine PC is a complete high-quality solution for both video and voice. Features include:

- GIPS high-quality and standard video codec support

- Voice and video synchronization (lip sync)

- Traffic shaping and packet loss robustness

- Smart key frame retransmission

- Motion detection triggering for high quality and lower bandwidth

- Adaptable frame rate/bit rate/image size for best audio and video quality

- HD video support for desktops

> "Service providers are looking for compelling high quality multimedia applications. The inclusion of GIPS VoiceEngine Multimedia LSVX video in Oracle Communicator further broadens the array of revenue generating services available on the Oracle Service Delivery Platform"
> *– Vittorio Viarengo, Oracle VP Development*

VoiceEngine Mobile and **VideoEngine Mobile** deliver voice and video processing to smartphones, dual-mode phones and PDAs. Platforms include Symbian, Windows Mobile, OSE and iPhone.

VoiceEngine ATA/IP Phones is embedded voice processing for chips and hardware devices including IADs/ATAs, IP phones, gateways, and wireless devices. It's available on virtually any platform and runs on any OS.

Voice ConferenceEngine is a powerful complete server-based extension of the Voice Engine PC plug-in. It supplies all conference bridge functions, including seamless transcoding and mixing of wideband and narrowband audio.

Voice MediationEngine is an advanced transcoder that minimizes delay from IP endpoint to IP endpoint via NetEQ de-jittering in both directions. It enhances speech quality in a packet loss environment when deployed in a mediation device, gateway or monitoring application while utilizing GIPS and standard ITU codecs. It can be implemented on any standard server platform.

VoiceEngine PC SDK and **VideoEngine PC SDK** simplify development by including all the crucial VoIP and video processing components in one package. They combine GIPS' field-proven VoiceEngine and VideoEngine technologies with SIP call setup and presence management to deliver superior voice and video quality as well as standards based call signaling. In addition, the SDKs' high level APIs ensure easy integration along with the flexibility to build unified communications features into virtually any application.

Video ConferenceEngine enables high-quality real-time audio and video conferencing. It manages all video and audio tasks typically provided by a hardware-based conferencing bridge. It offers multi-location scalability along with the seamless mixing and relay of proprietary and standard video codec streams.
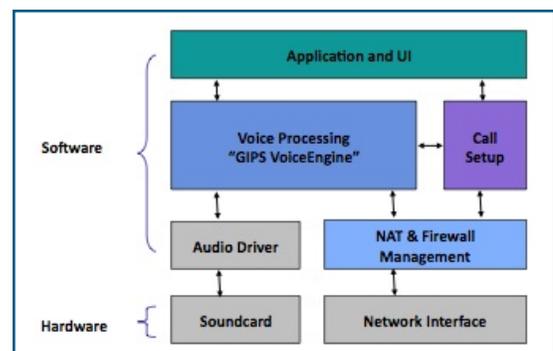
GIPS MediaEngines are right-sized functionality sets designed and architected to support specific voice and video platforms such as PCs, mobile, conferencing servers, and more.

VoiceEngine PC (shown here) handles all voice-related tasks for VoIP softphone implementations.

Plug and play quality enhancement

GIPS core components are matched against specific network impairments to deliver highly granular mitigation tailored to specific media processing environments.

NetEQ, the GIPS flagship product, is a one-sided embedded solution that offers highly advance jitter buffer and packet loss concealment in voice networks with poor infrastructure.

GIPS Voice Quality Enhancement (VQE) improves the quality of VoIP quality by removing echo and noise, and by adjusting speech levels to achieve a consistent and comfortable listening experience.

Acoustic and network echo cancellation components suppress echo caused by a variety of environmental, network and electrical sources.

Partner with the experts

Global IP Solutions' customers license SDKs, MediaEngines or media processing components. And by integrating GIPS software into your device, application or service, you also integrate our world-class media processing experts into your team. We work directly with your developers to accelerate your technology deployment. In effect, we become your "center of excellence" for best-of-breed real-time media processing over IP.

"Our GIPS-enabled solutions allow enhanced conferencing features to be a cornerstone of WebEx solutions."
— Gary Griffiths, President WebEx Products & Operations

Advanced audio and video codecs

GIPS' standards-based and proprietary codecs support wideband and narrowband audio and video communications in both high bit-rate and low bit-rate conditions. Packet-loss robustness exceeds current standards. And, when combined with NetEQ, they offer lower delay than any other solution in the market.

Audio codecs: iLBC, Enhanced G.711, iSAC, iPCM-wb, and over 20 other standard codecs

Video codecs: LSVX, H.263, MPEG-4, H.264, H.264 SVC (scalable video codec)

Validated by proven industry leaders

Market leaders rely on us to deliver the performance and features critical to their reputations. They include:

- IBM
- Baidu
- Nortel Networks
- Radvision
- Samsung
- Skype
- Brazil Telecom
- Tencent
- Texas Instruments
- Cisco/WebEx Communications
- Yahoo!

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